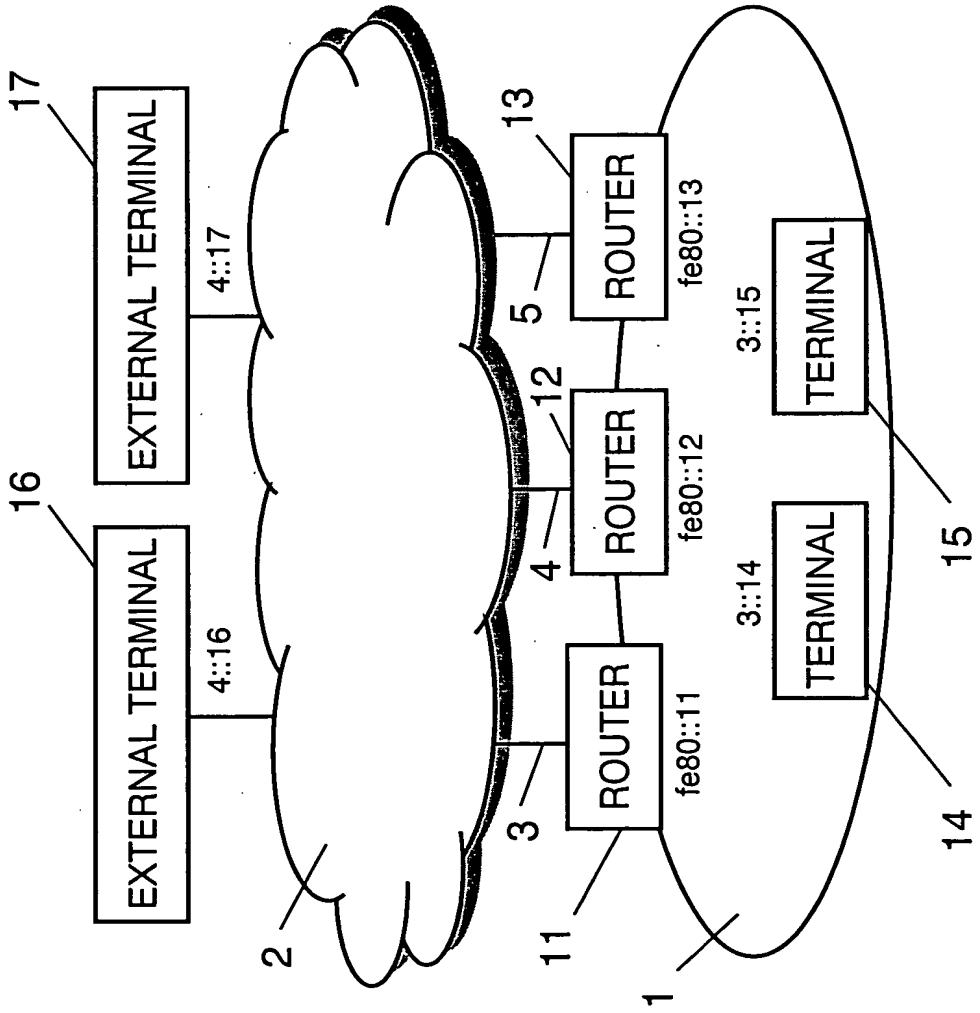
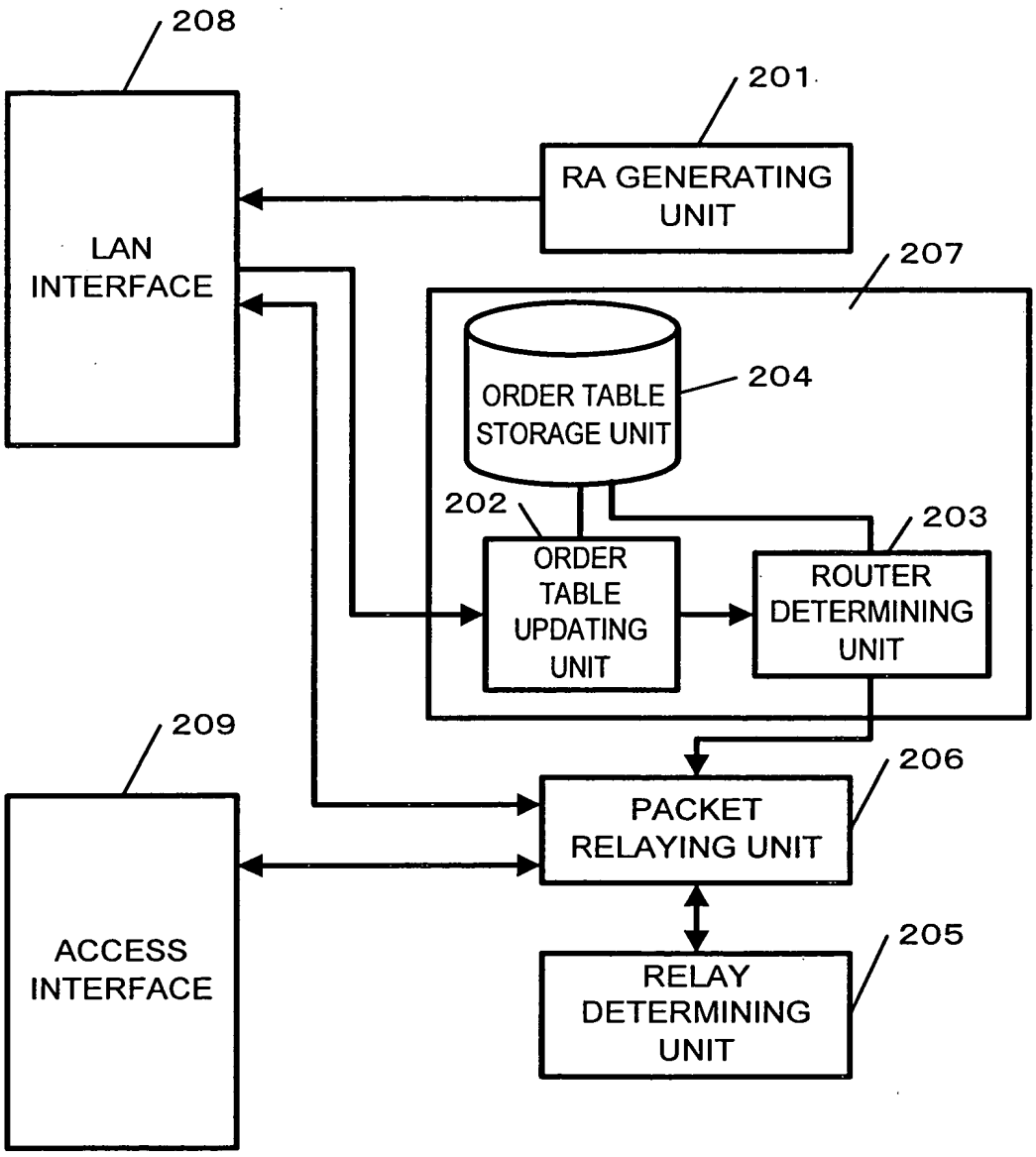

17
EXTERNAL TERMINAL
4::17
16
EXTERNAL TERMINAL
4::16
2
13
ROUTER
fe80::13
5
12
ROUTER
fe80::12
4
ROUTER
fe80::11
3
11
1
3::15
TERMINAL
15
3::14
TERMINAL
14

Fig. 1

Fig. 2


208
201
RA GENERATING UNIT
LAN INTERFACE
207
ORDER TABLE STORAGE UNIT
204
202
203
ORDER TABLE UPDATING UNIT
ROUTER DETERMINING UNIT
209
206
PACKET RELAYING UNIT
ACCESS INTERFACE
205
RELAY DETERMINING UNIT

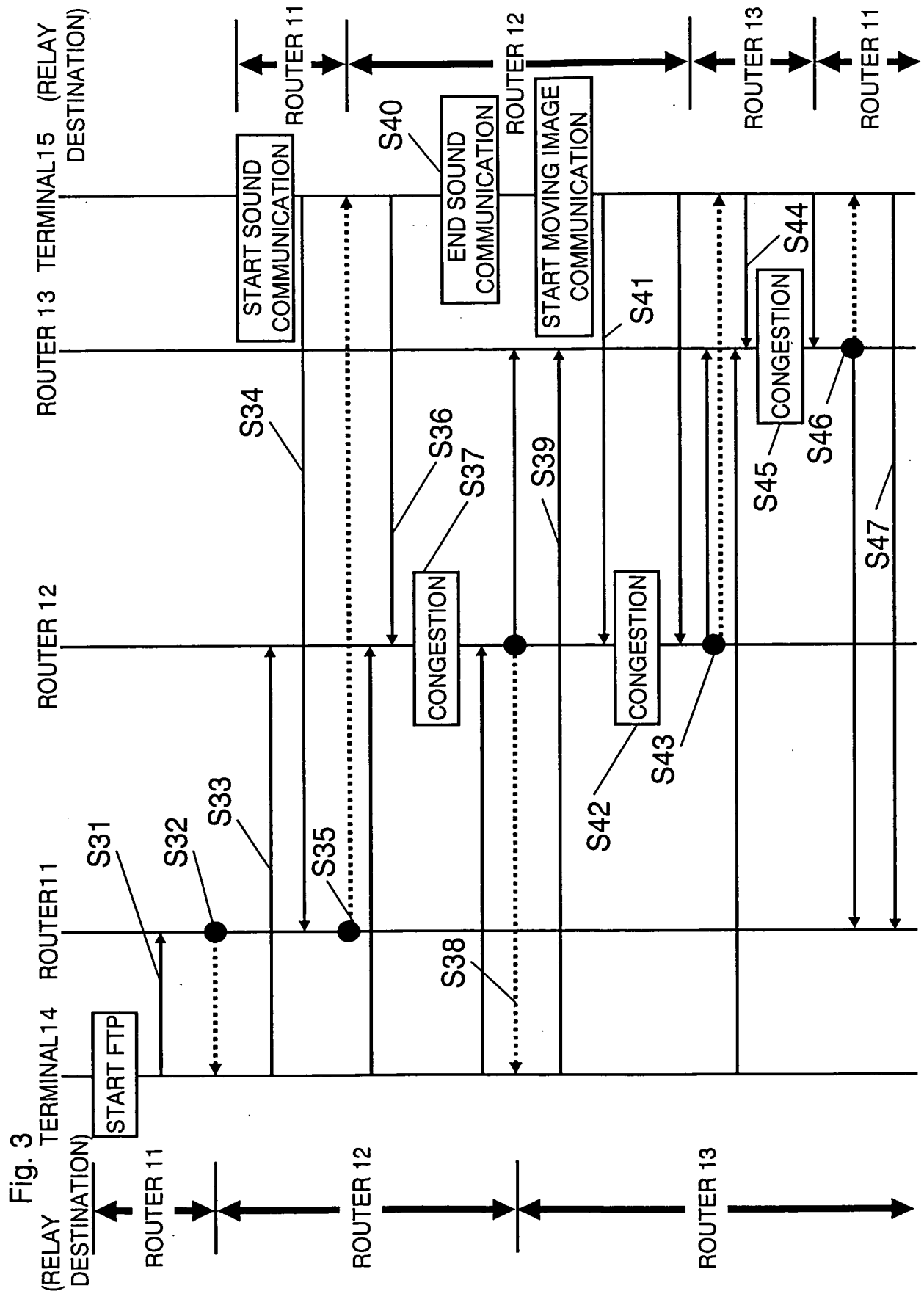

TERMINAL14 (RELAY DESTINATION)
ROUTER11
ROUTER 12
ROUTER 13
TERMINAL15 (RELAY DESTINATION)
START FTP
START SOUND COMMUNICATION
END SOUND COMMUNICATION
START MOVING IMAGE COMMUNICATION
CONGESTION
CONGESTION
CONGESTION
S31
S32
S33
S34
S35
S36
S37
S38
S39
S40
S41
S42
S43
S44
S45
S46
S47
ROUTER 11
ROUTER 12
ROUTER 13
ROUTER 11

Fig. 3

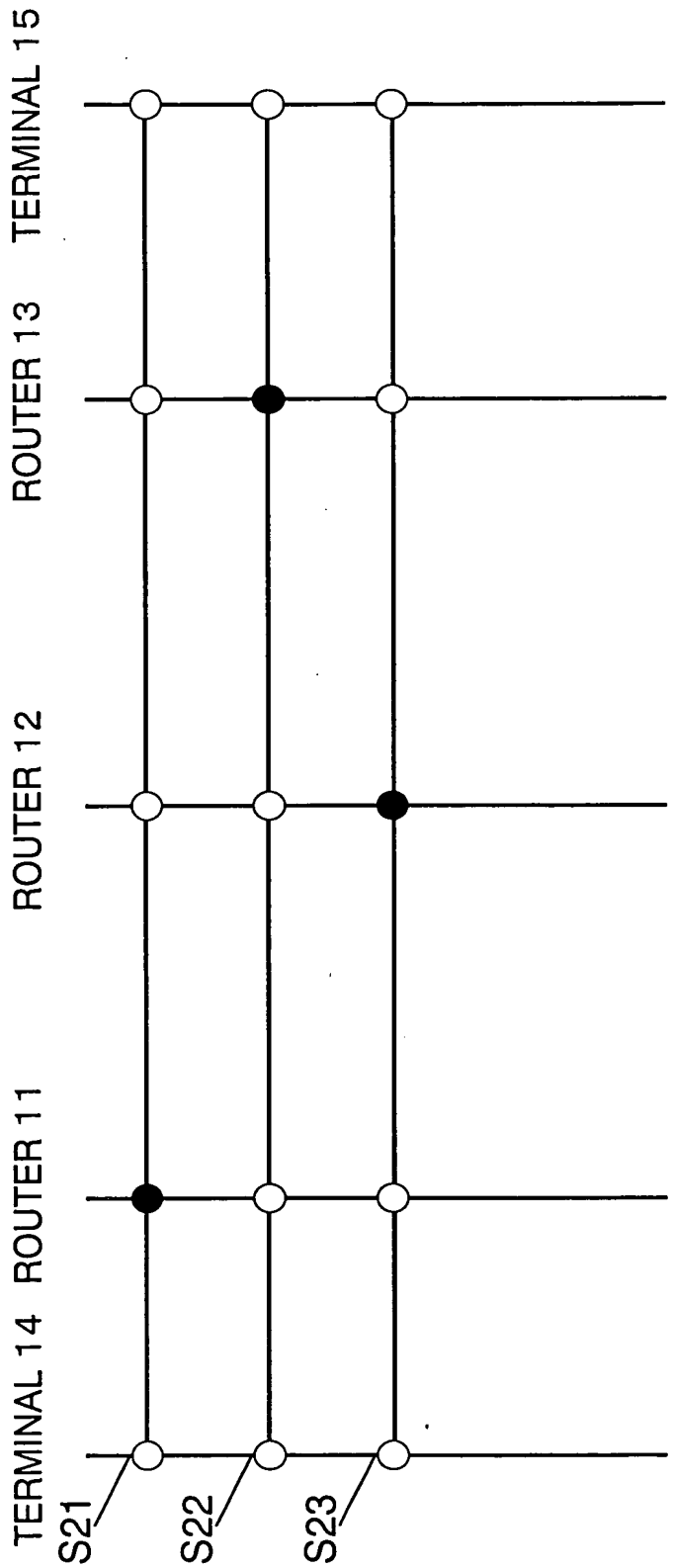

TERMINAL 15
ROUTER 13
ROUTER 12
ROUTER 11
TERMINAL 14
S21
S22
S23

Fig. 4

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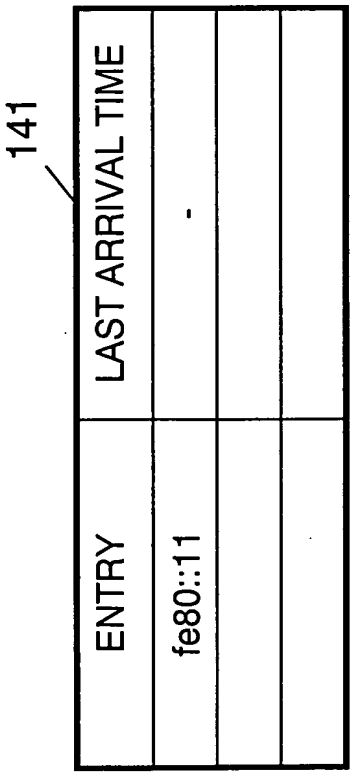

Fig. 5A

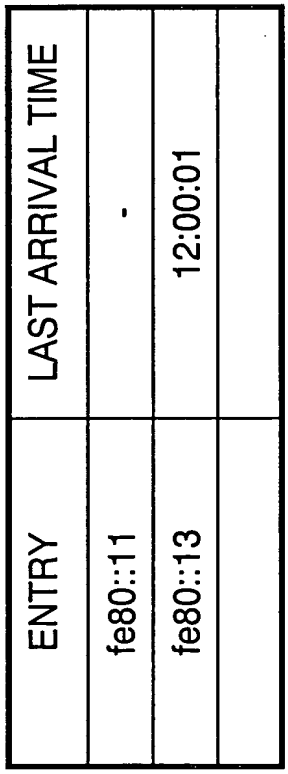

Fig. 5B

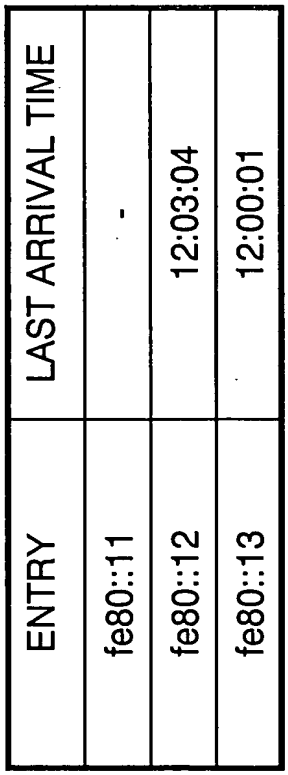

Fig. 5C

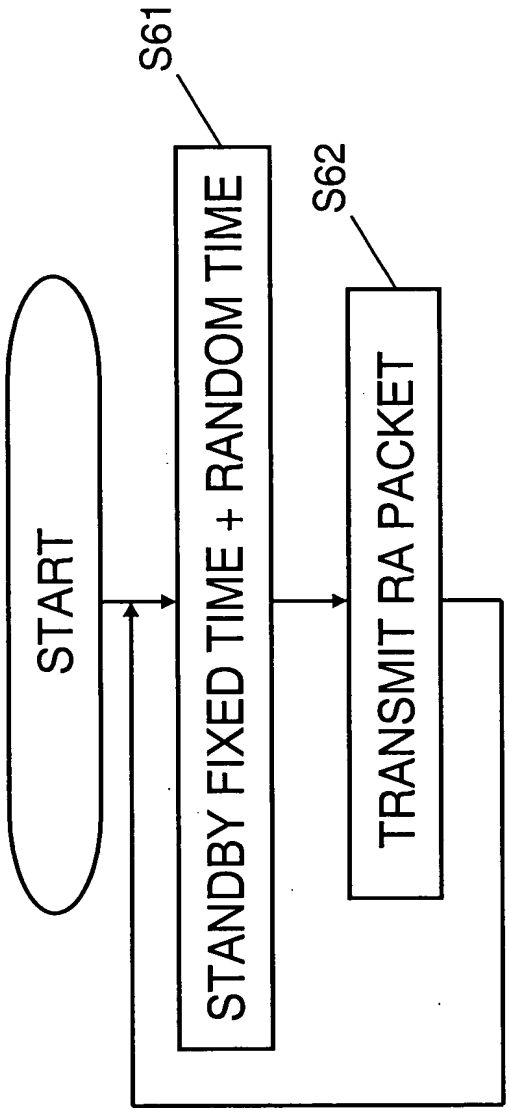
START
S61
STANDBY FIXED TIME + RANDOM TIME
S62
TRANSMIT RA PACKET

Fig. 6

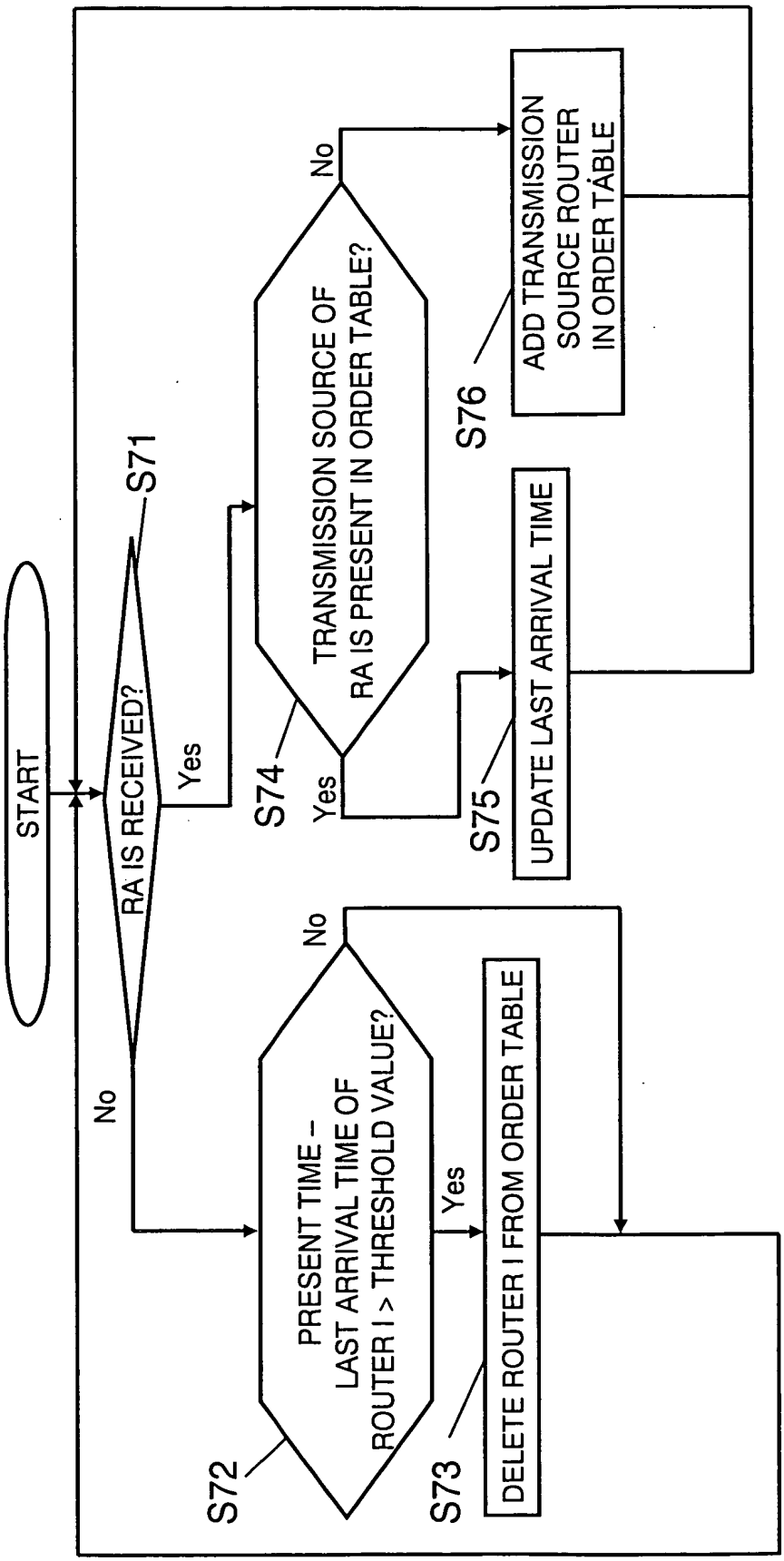
START
RA IS RECEIVED?
S71
Yes
No
TRANSMISSION SOURCE OF RA IS PRESENT IN ORDER TABLE?
S74
No
Yes
ADD TRANSMISSION SOURCE ROUTER IN ORDER TABLE
S76
UPDATE LAST ARRIVAL TIME
S75
PRESENT TIME - LAST ARRIVAL TIME OF ROUTER I > THRESHOLD VALUE?
S72
No
Yes
DELETE ROUTER I FROM ORDER TABLE
S73

Fig. 7

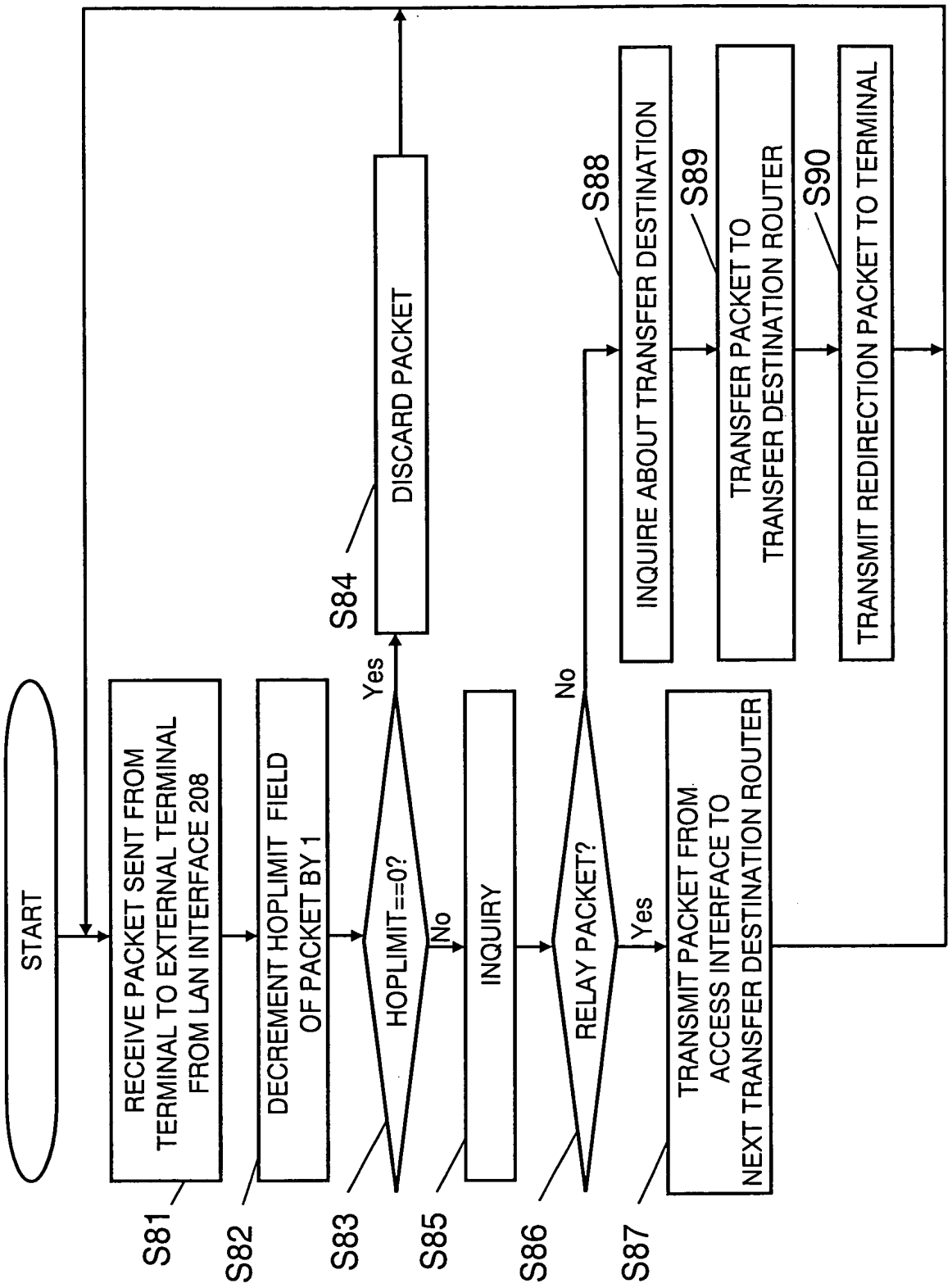
START
RECEIVE PACKET SENT FROM TERMINAL TO EXTERNAL TERMINAL FROM LAN INTERFACE 208
DECREMENT HOPLIMIT FIELD OF PACKET BY 1
HOPLIMIT==0?
Yes
No
DISCARD PACKET
INQUIRY
RELAY PACKET?
No
Yes
INQUIRE ABOUT TRANSFER DESTINATION
TRANSFER PACKET TO TRANSFER DESTINATION ROUTER
TRANSMIT REDIRECTION PACKET TO TERMINAL
TRANSMIT PACKET FROM ACCESS INTERFACE TO NEXT TRANSFER DESTINATION ROUTER
S81
S82
S83
S84
S85
S86
S87
S88
S89
S90

Fig. 8

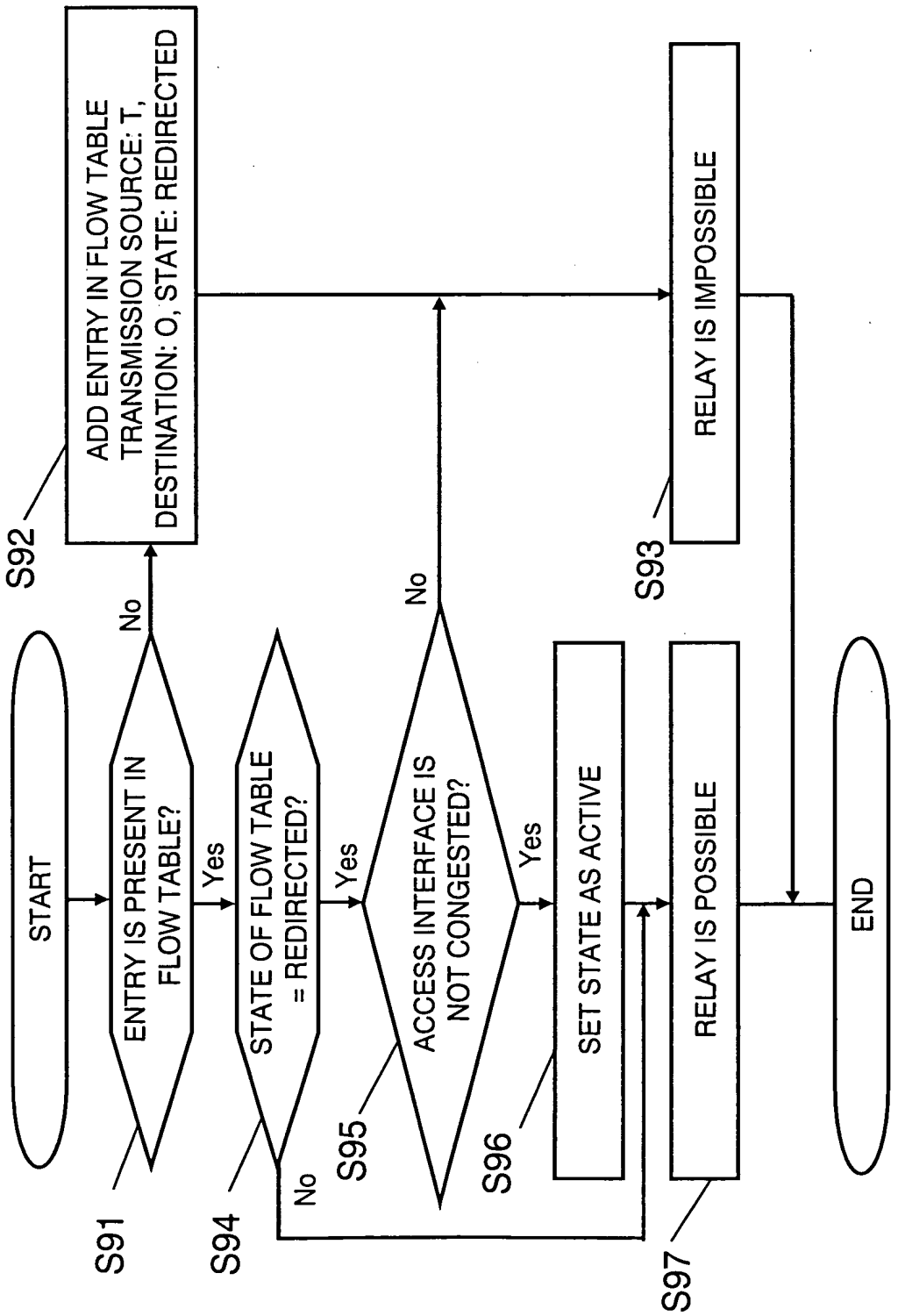
START
ENTRY IS PRESENT IN FLOW TABLE?
Yes
No
STATE OF FLOW TABLE = REDIRECTED?
Yes
No
ACCESS INTERFACE IS NOT CONGESTED?
Yes
No
SET STATE AS ACTIVE
RELAY IS POSSIBLE
RELAY IS IMPOSSIBLE
ADD ENTRY IN FLOW TABLE TRANSMISSION SOURCE: T, DESTINATION: O, STATE: REDIRECTED
END
S91
S92
S93
S94
S95
S96
S97

Fig. 9

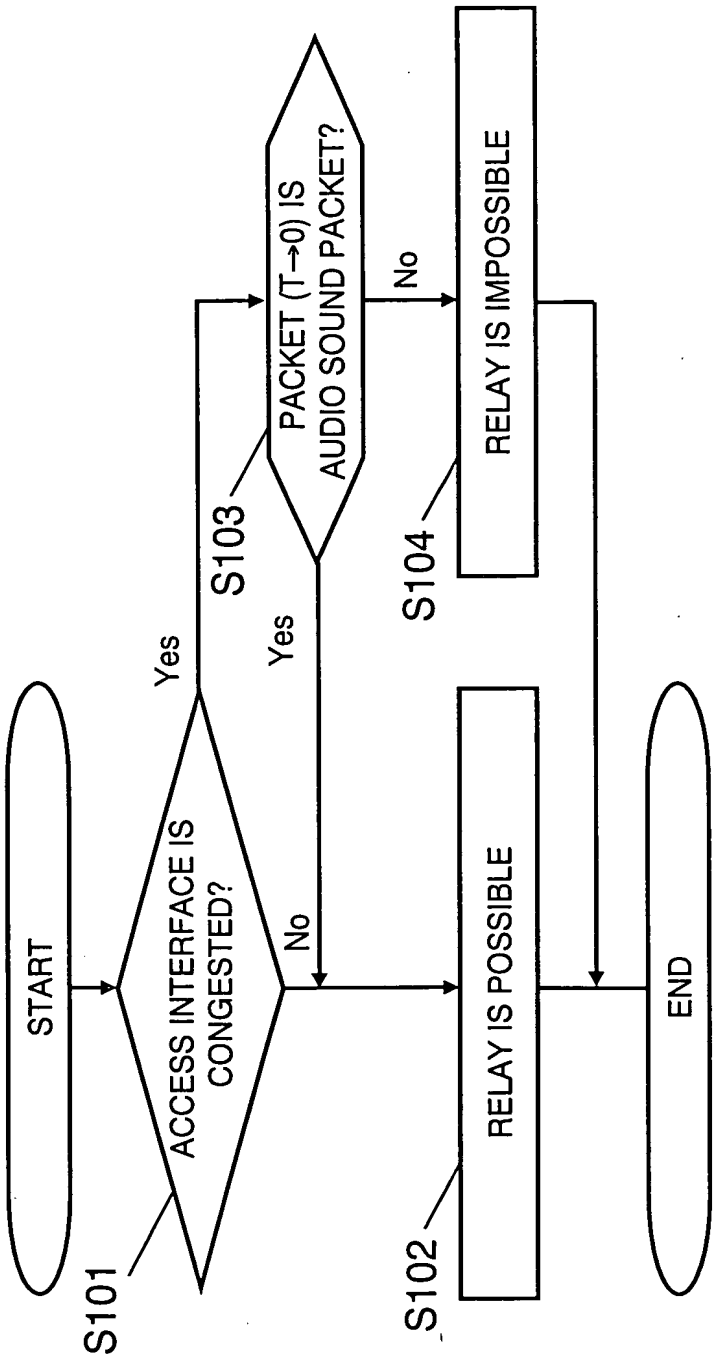
START
ACCESS INTERFACE IS CONGESTED?
S101
Yes
No
PACKET (T→0) IS AUDIO SOUND PACKET?
S103
Yes
No
RELAY IS IMPOSSIBLE
S104
RELAY IS POSSIBLE
S102
END

Fig. 10

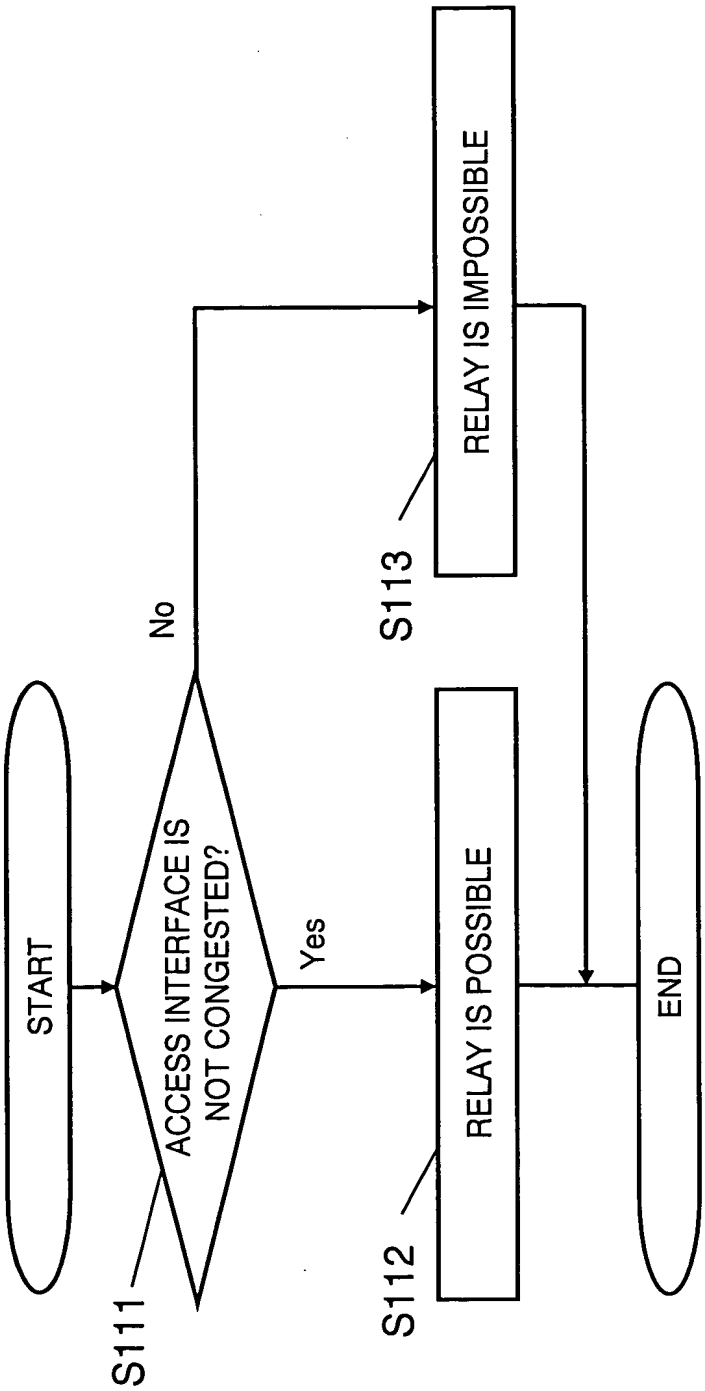
START
ACCESS INTERFACE IS NOT CONGESTED?
S111
No
Yes
RELAY IS IMPOSSIBLE
S113
RELAY IS POSSIBLE
S112
END

Fig. 11

Fig. 12

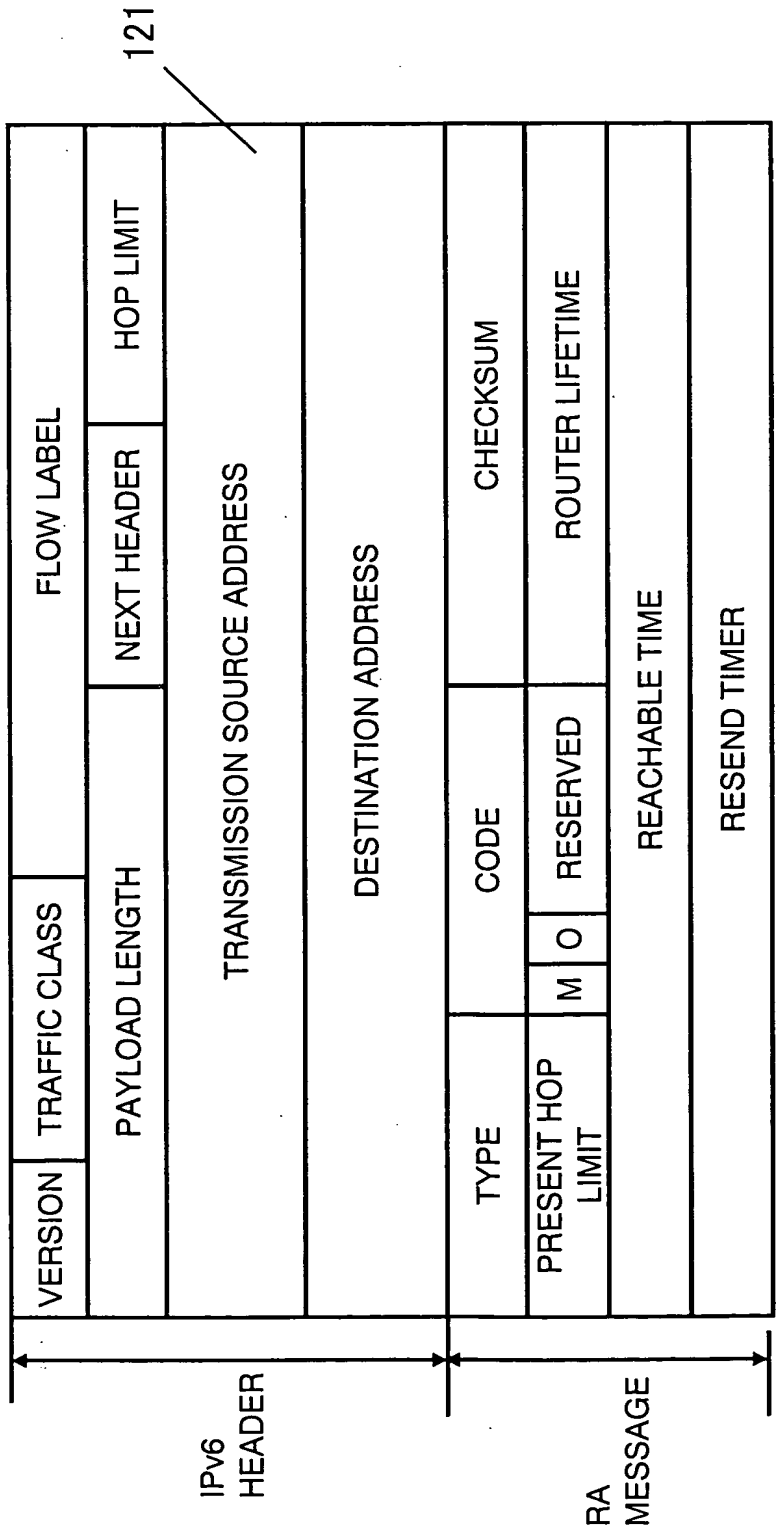
121
VERSION
TRAFFIC CLASS
FLOW LABEL
PAYLOAD LENGTH
NEXT HEADER
HOP LIMIT
TRANSMISSION SOURCE ADDRESS
DESTINATION ADDRESS
TYPE
CODE
CHECKSUM
PRESENT HOP LIMIT
M
O
RESERVED
ROUTER LIFETIME
REACHABLE TIME
RESEND TIMER
IPv6 HEADER
RA MESSAGE

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Fig. 13

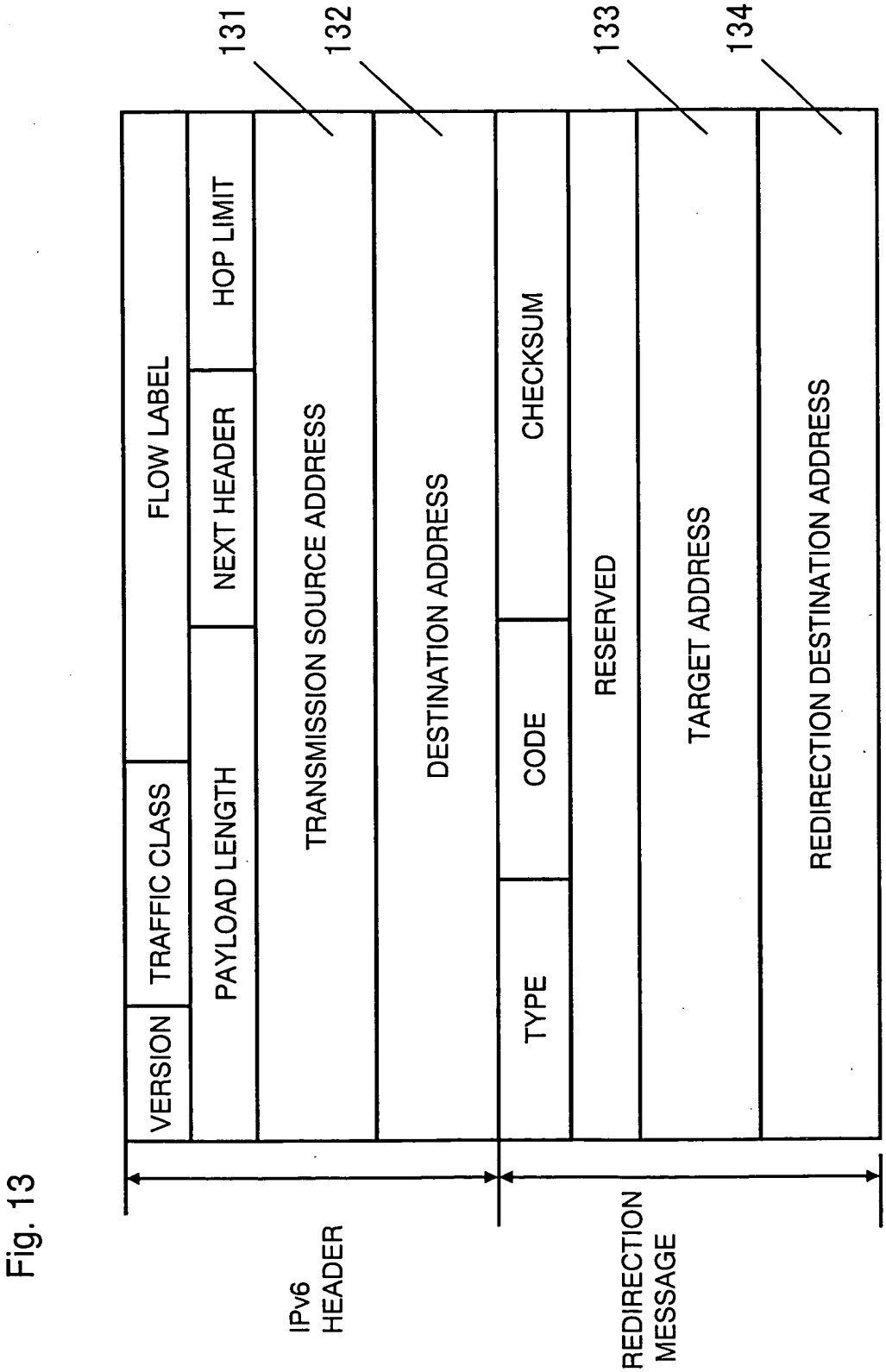

Fig. 14A

ENTRY	TRANSMISSION SOURCE	DESTINATION	STATE
1	3::14	4::16	REDIRECTED

Fig. 14B

ENTRY	TRANSMISSION SOURCE	DESTINATION	STATE
1	3::14	4::16	REDIRECTED
2	3::15	4::17	REDIRECTED

Fig. 14C

ENTRY	TRANSMISSION SOURCE	DESTINATION	STATE
1	3::14	4::16	ACTIVE
2	3::15	4::17	REDIRECTED

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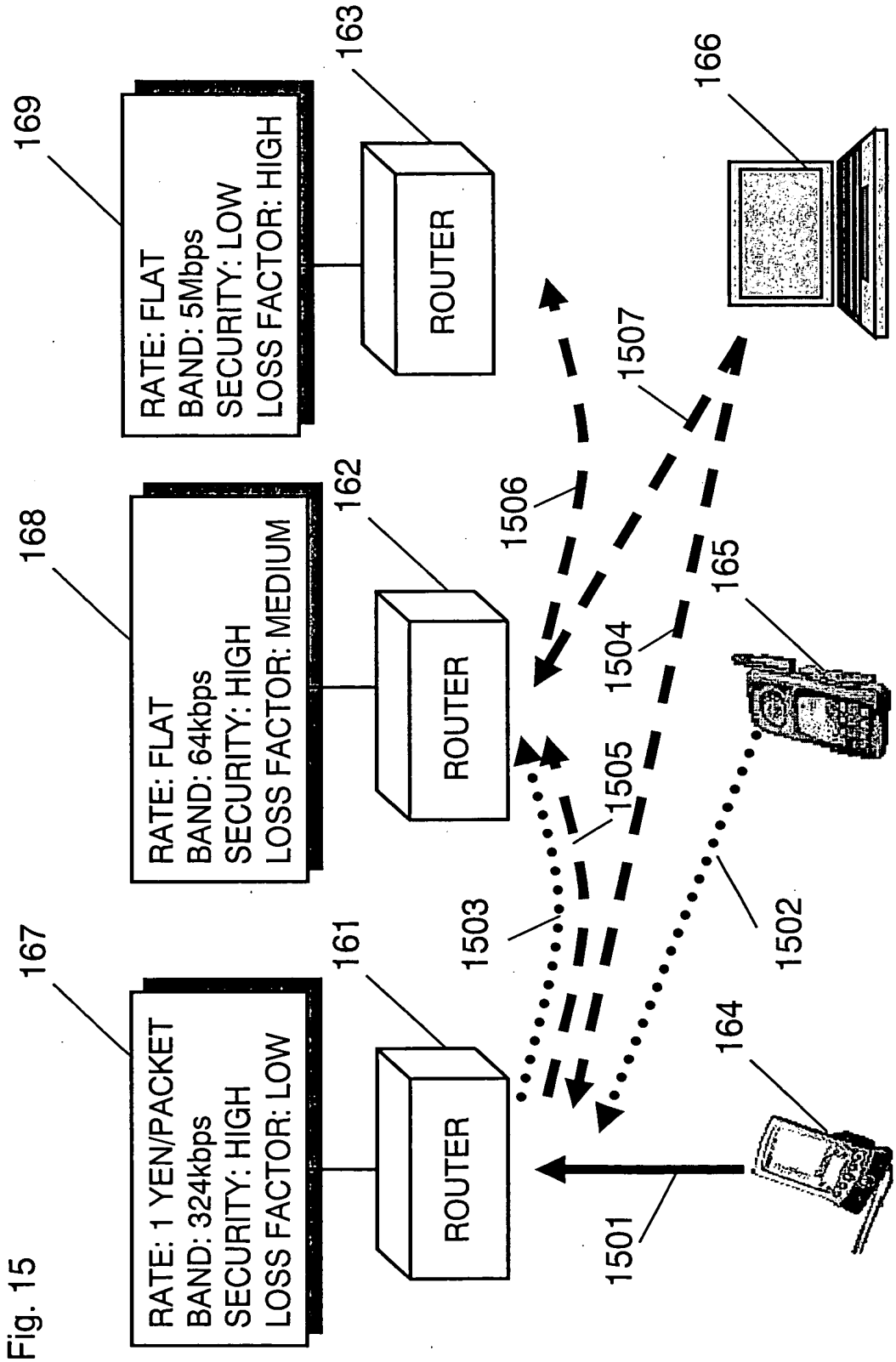


Fig. 15

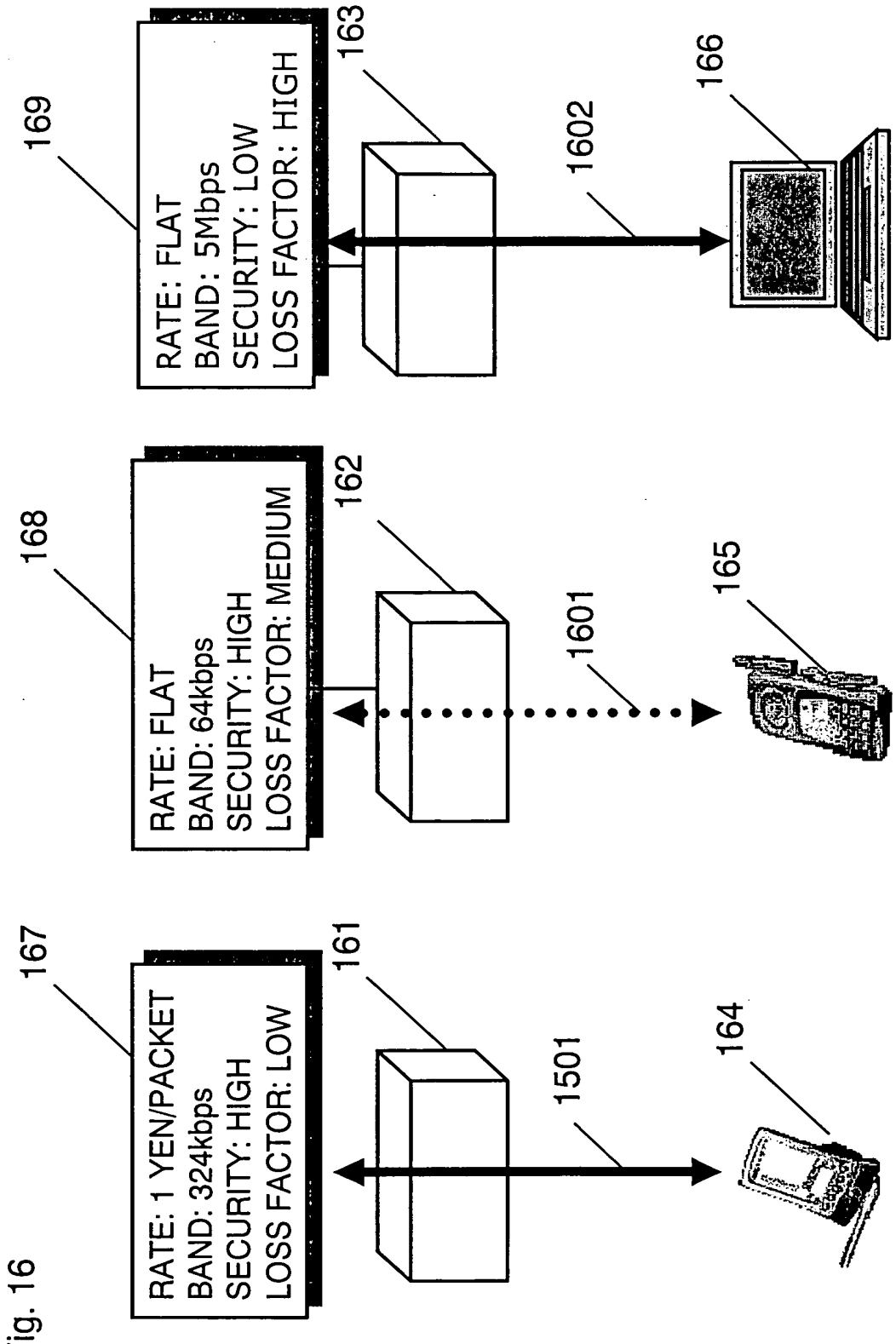

167
RATE: 1 YEN/PACKET
BAND: 324kbps
SECURITY: HIGH
LOSS FACTOR: LOW
161
1501
164
168
RATE: FLAT
BAND: 64kbps
SECURITY: HIGH
LOSS FACTOR: MEDIUM
162
1601
165
169
RATE: FLAT
BAND: 5Mbps
SECURITY: LOW
LOSS FACTOR: HIGH
163
1602
166

Fig. 16

Fig. 17

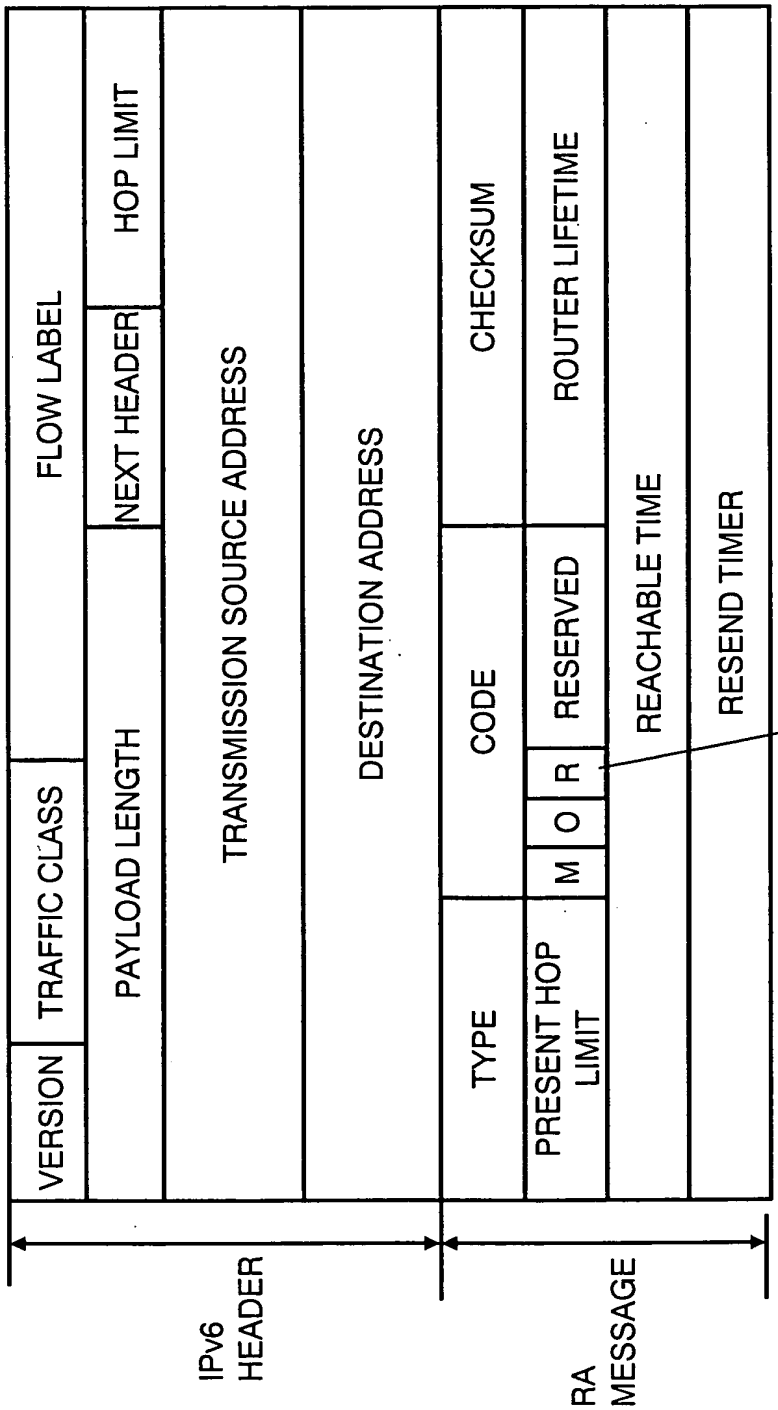

VERSION
TRAFFIC CLASS
FLOW LABEL
PAYLOAD LENGTH
NEXT HEADER
HOP LIMIT
TRANSMISSION SOURCE ADDRESS
DESTINATION ADDRESS
TYPE
CODE
CHECKSUM
PRESENT HOP LIMIT
M
O
R
RESERVED
ROUTER LIFETIME
REACHABLE TIME
RESEND TIMER
181
IPv6 HEADER
RA MESSAGE

Fig. 18

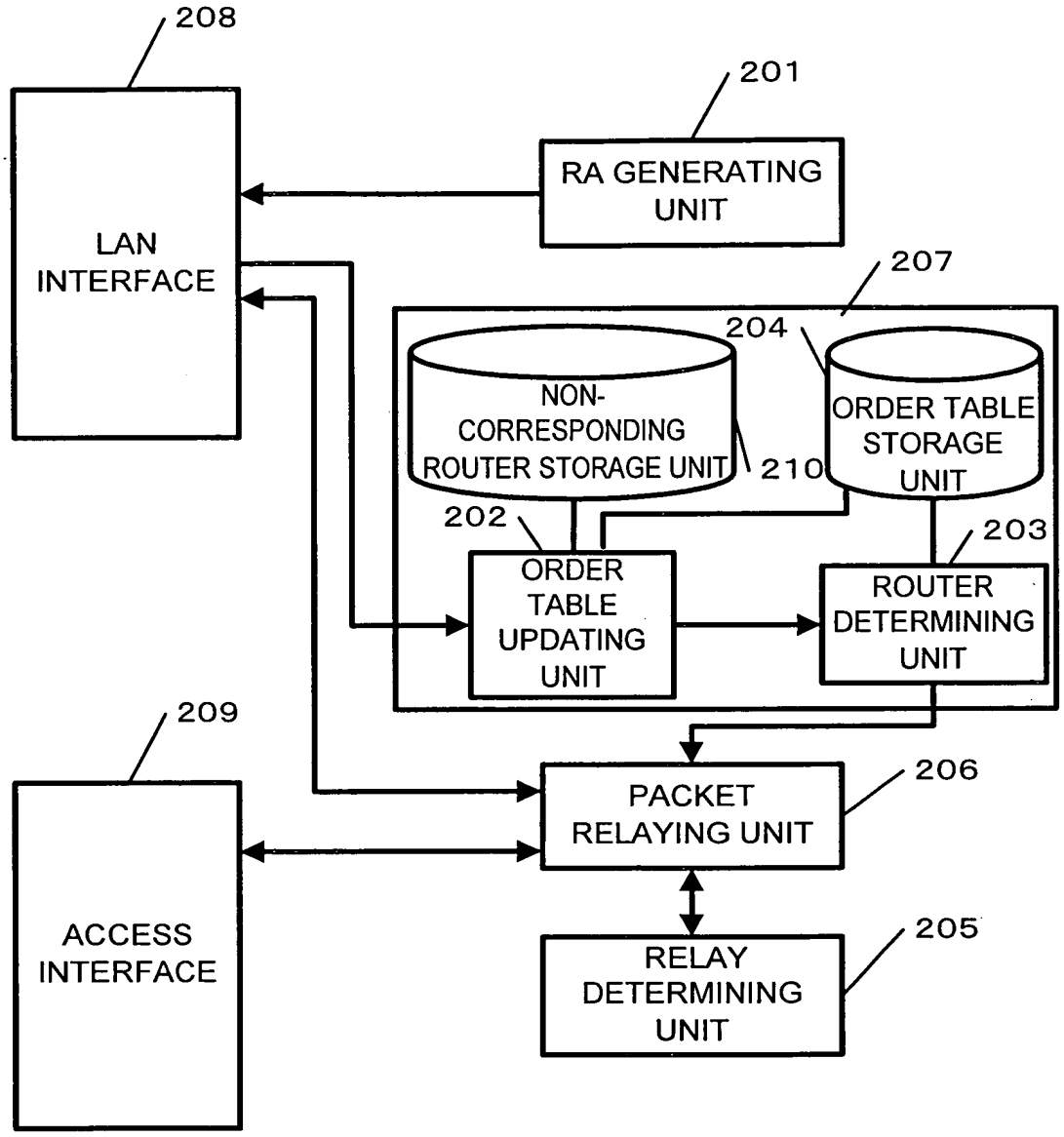
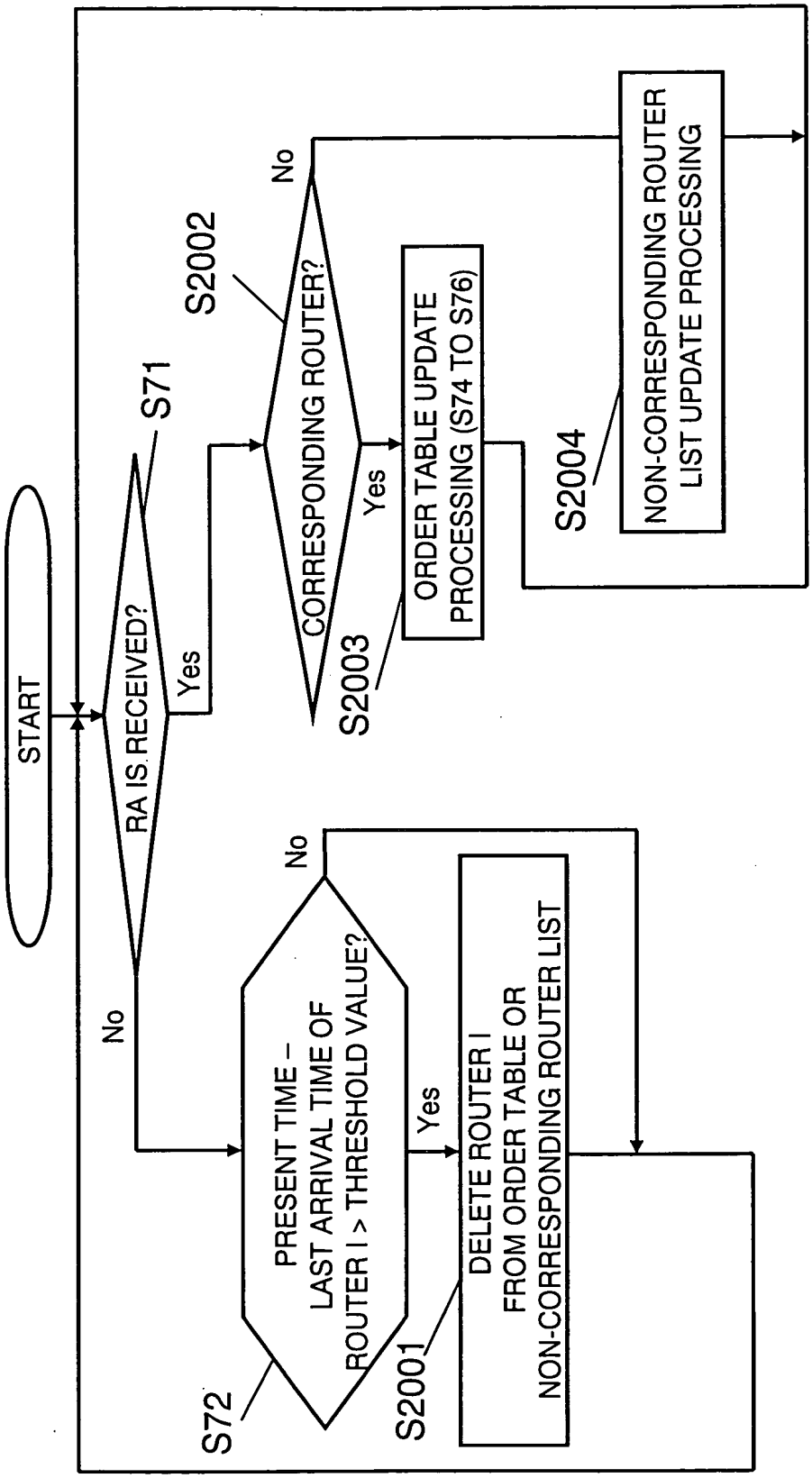

208
201
RA GENERATING UNIT
LAN INTERFACE
207
204
NON-CORRESPONDING ROUTER STORAGE UNIT
210
ORDER TABLE STORAGE UNIT
202
203
ORDER TABLE UPDATING UNIT
ROUTER DETERMINING UNIT
209
206
PACKET RELAYING UNIT
ACCESS INTERFACE
205
RELAY DETERMINING UNIT

Fig. 19


START
RA IS RECEIVED?
S71
Yes
No
CORRESPONDING ROUTER?
S2002
No
Yes
ORDER TABLE UPDATE PROCESSING (S74 TO S76)
S2003
NON-CORRESPONDING ROUTER LIST UPDATE PROCESSING
S2004
PRESENT TIME – LAST ARRIVAL TIME OF ROUTER I > THRESHOLD VALUE?
S72
No
Yes
DELETE ROUTER I FROM ORDER TABLE OR NON-CORRESPONDING ROUTER LIST
S2001

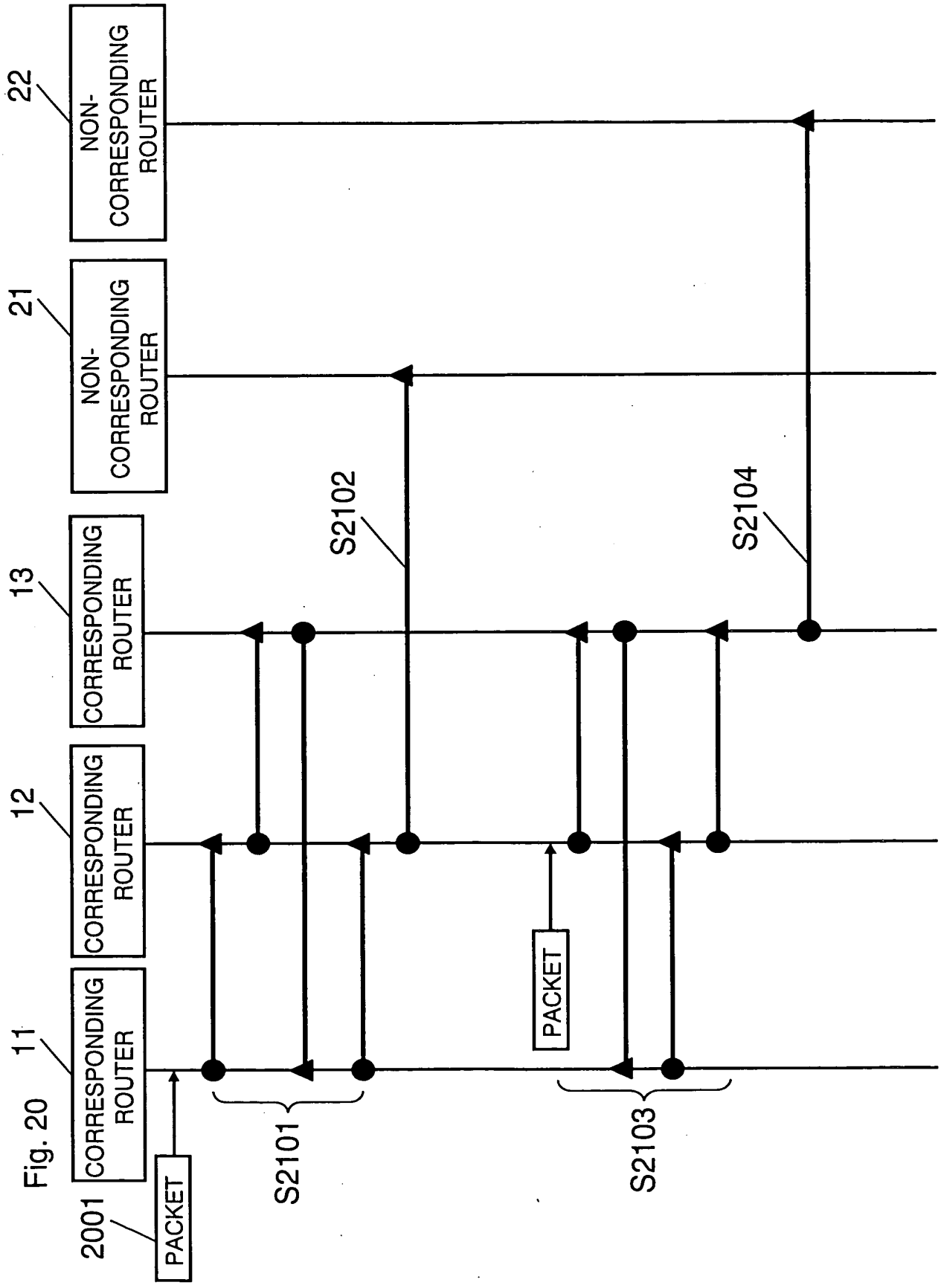
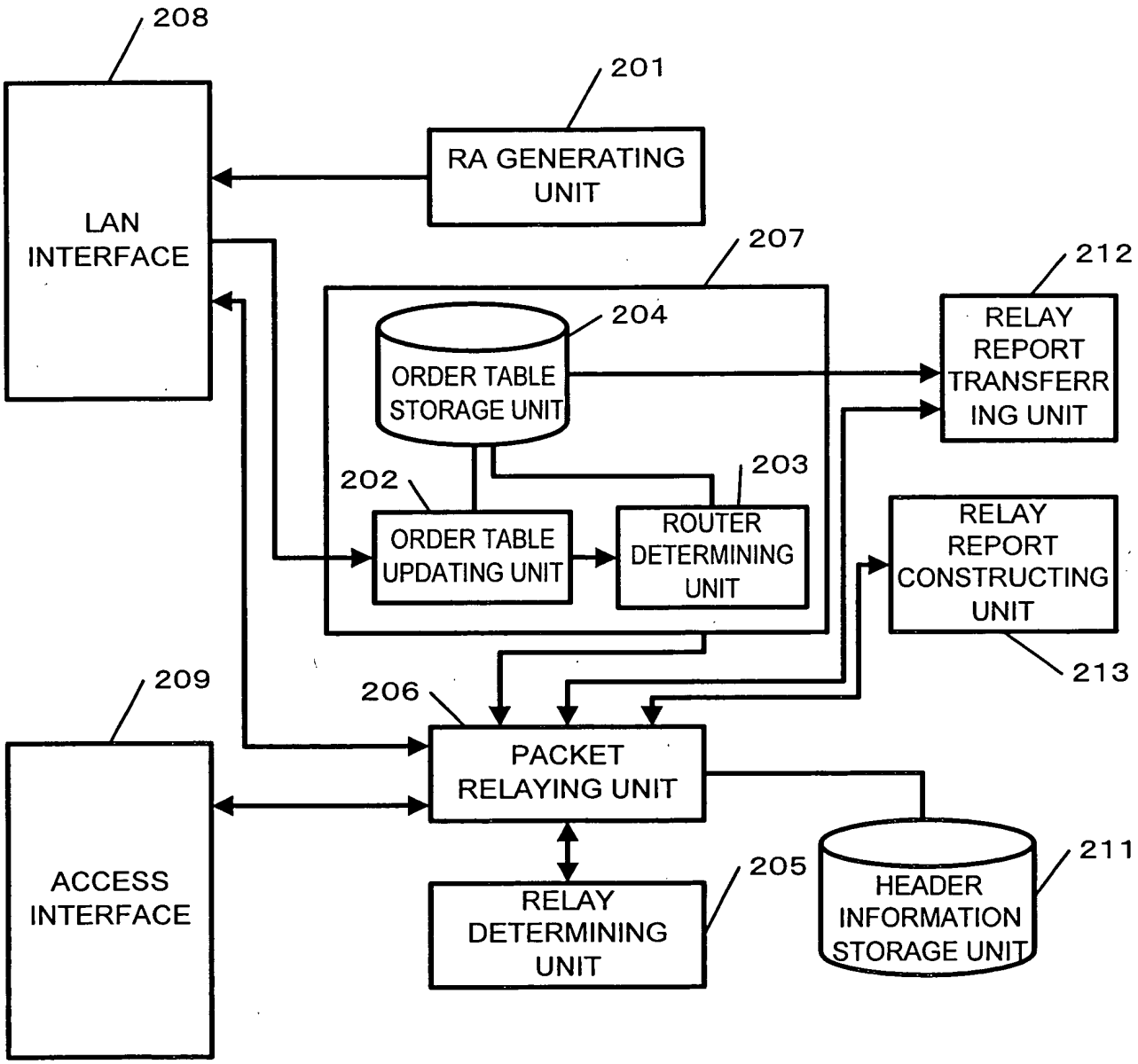

22
NON-CORRESPONDING ROUTER
21
NON-CORRESPONDING ROUTER
13
CORRESPONDING ROUTER
12
CORRESPONDING ROUTER
11
CORRESPONDING ROUTER
2001
PACKET
S2101
S2102
PACKET
S2103
S2104

Fig. 20

Fig. 21


208
201
RA GENERATING UNIT
LAN INTERFACE
207
212
204
ORDER TABLE STORAGE UNIT
RELAY REPORT TRANSFERRING UNIT
203
202
ORDER TABLE UPDATING UNIT
ROUTER DETERMINING UNIT
RELAY REPORT CONSTRUCTING UNIT
213
209
206
PACKET RELAYING UNIT
ACCESS INTERFACE
205
211
RELAY DETERMINING UNIT
HEADER INFORMATION STORAGE UNIT

ENTRY	MAC ADDRESS	LAST ARRIVAL TIME
fe80::11	00:00:00:00:00:11	-
fe80::12	00:00:00:00:00:12	12:03:04
fe80::13	00:00:00:00:00:13	12:00:01

Fig. 22

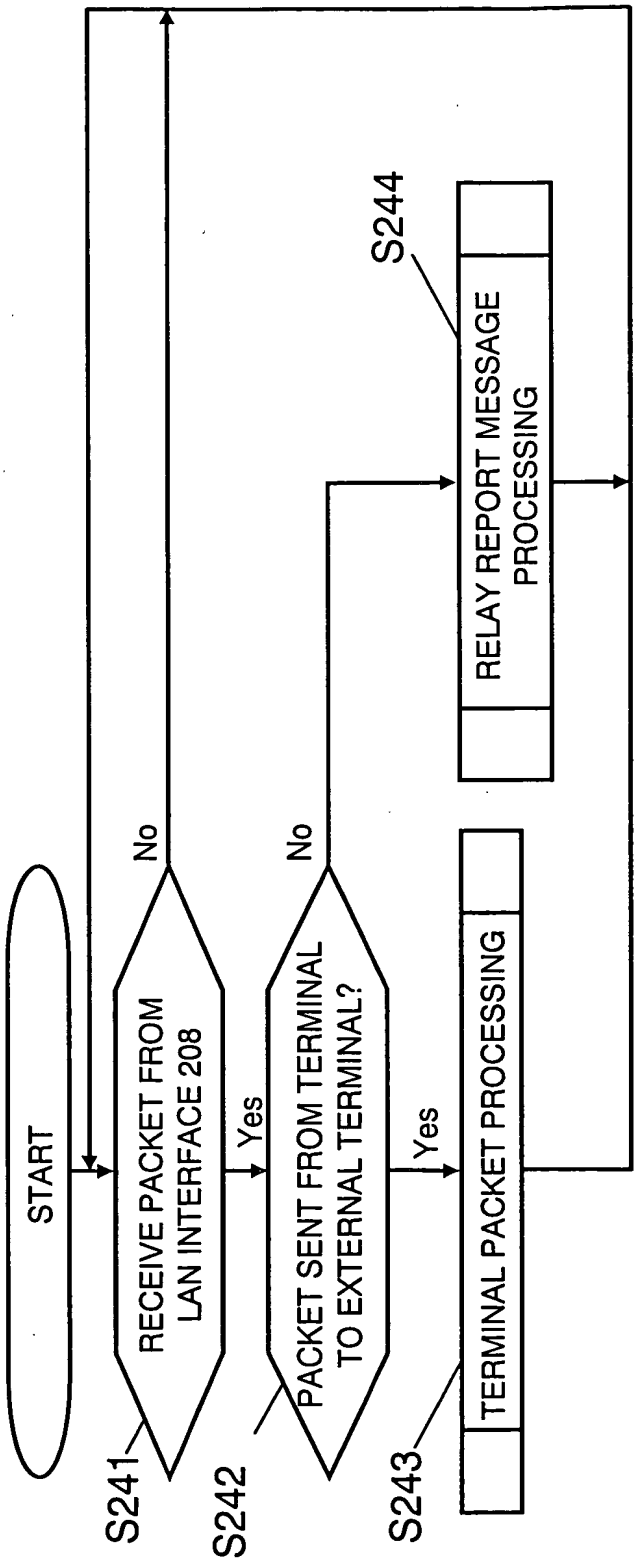

START
RECEIVE PACKET FROM LAN INTERFACE 208
No
Yes
PACKET SENT FROM TERMINAL TO EXTERNAL TERMINAL?
No
Yes
TERMINAL PACKET PROCESSING
RELAY REPORT MESSAGE PROCESSING
S241
S242
S243
S244

Fig. 23

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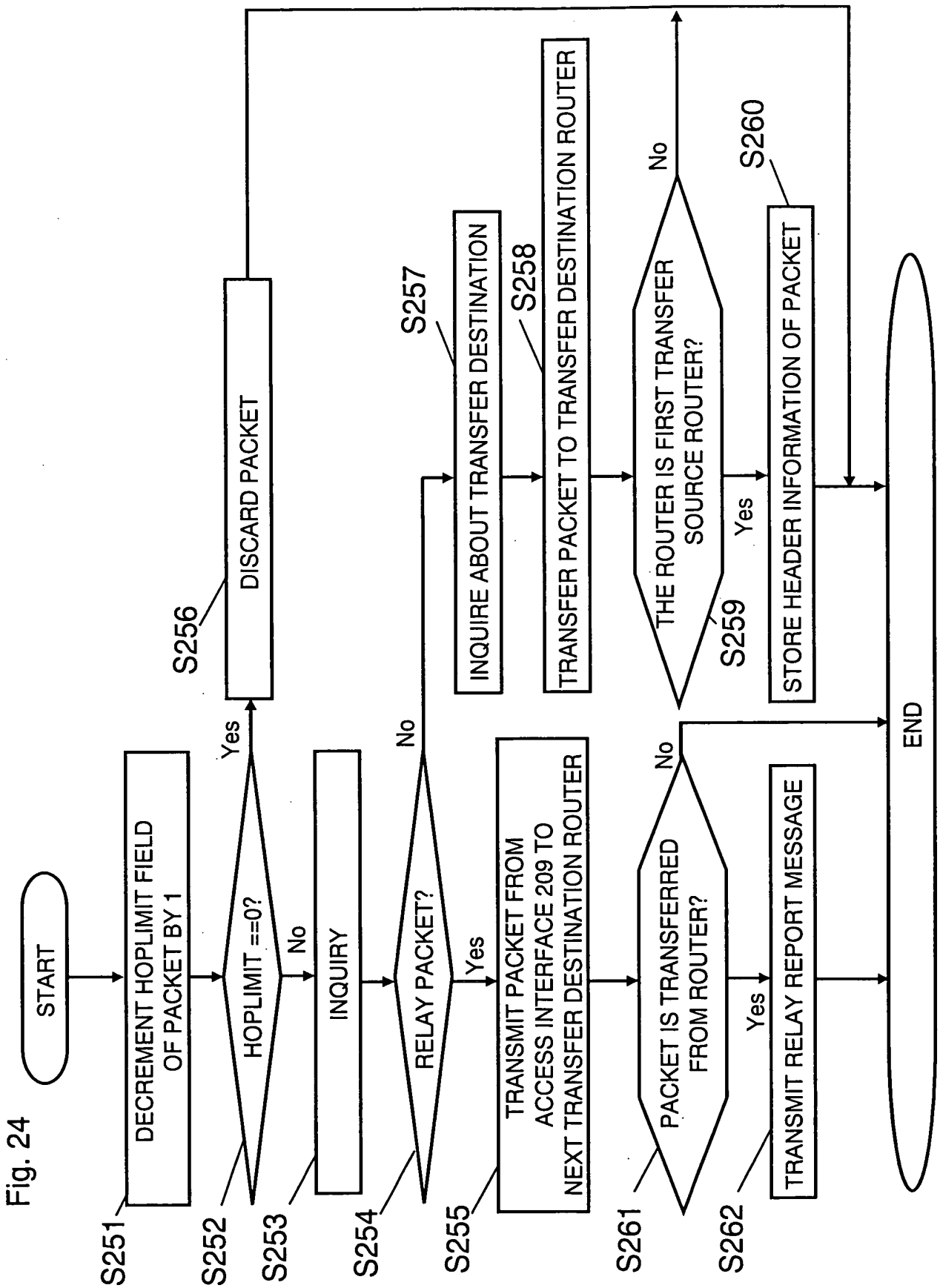
Fig. 24



10154717

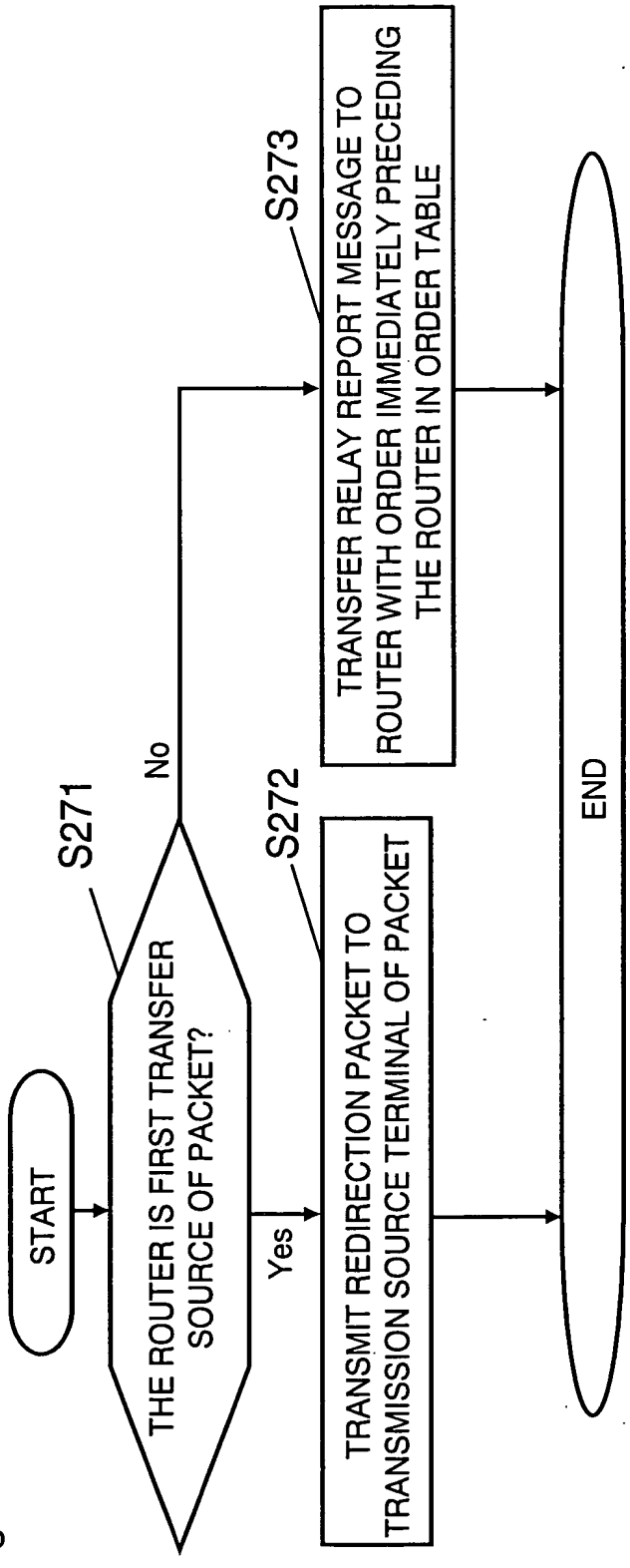


Fig. 25

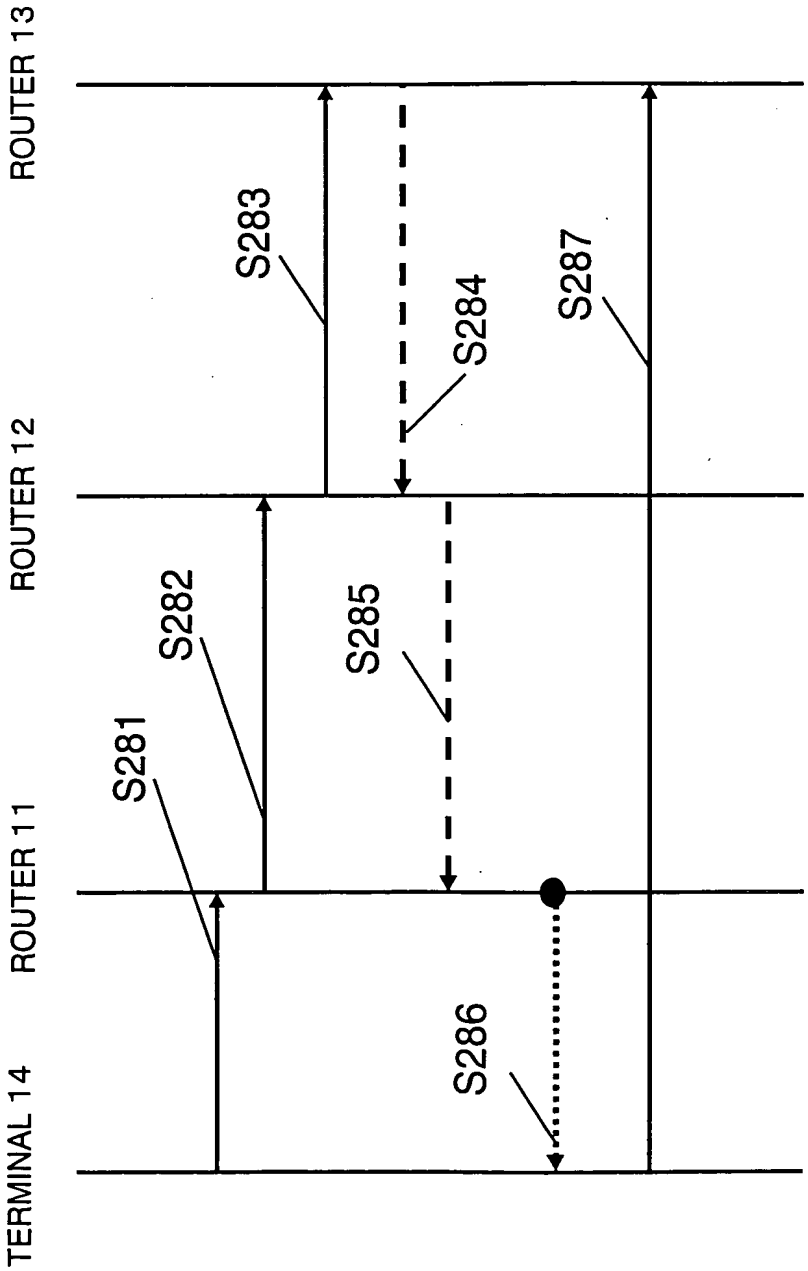

ROUTER 13
ROUTER 12
ROUTER 11
TERMINAL 14
S283
S284
S287
S282
S285
S281
S286

Fig. 26

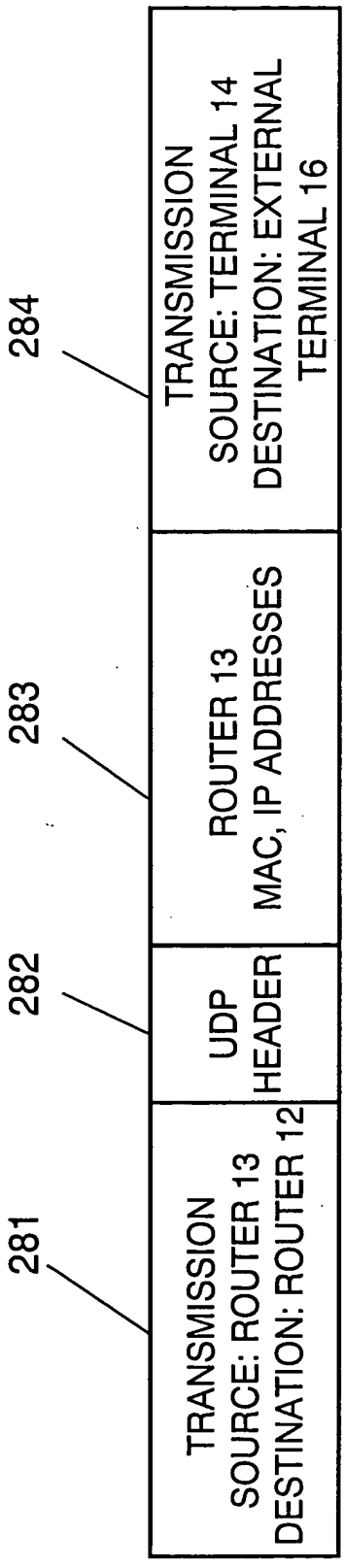


Fig. 27A

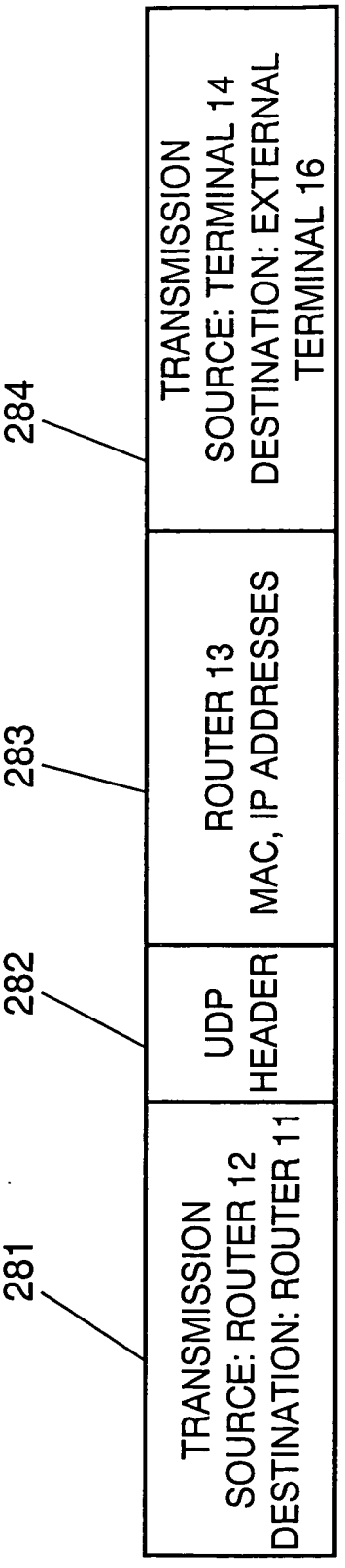


Fig. 27B

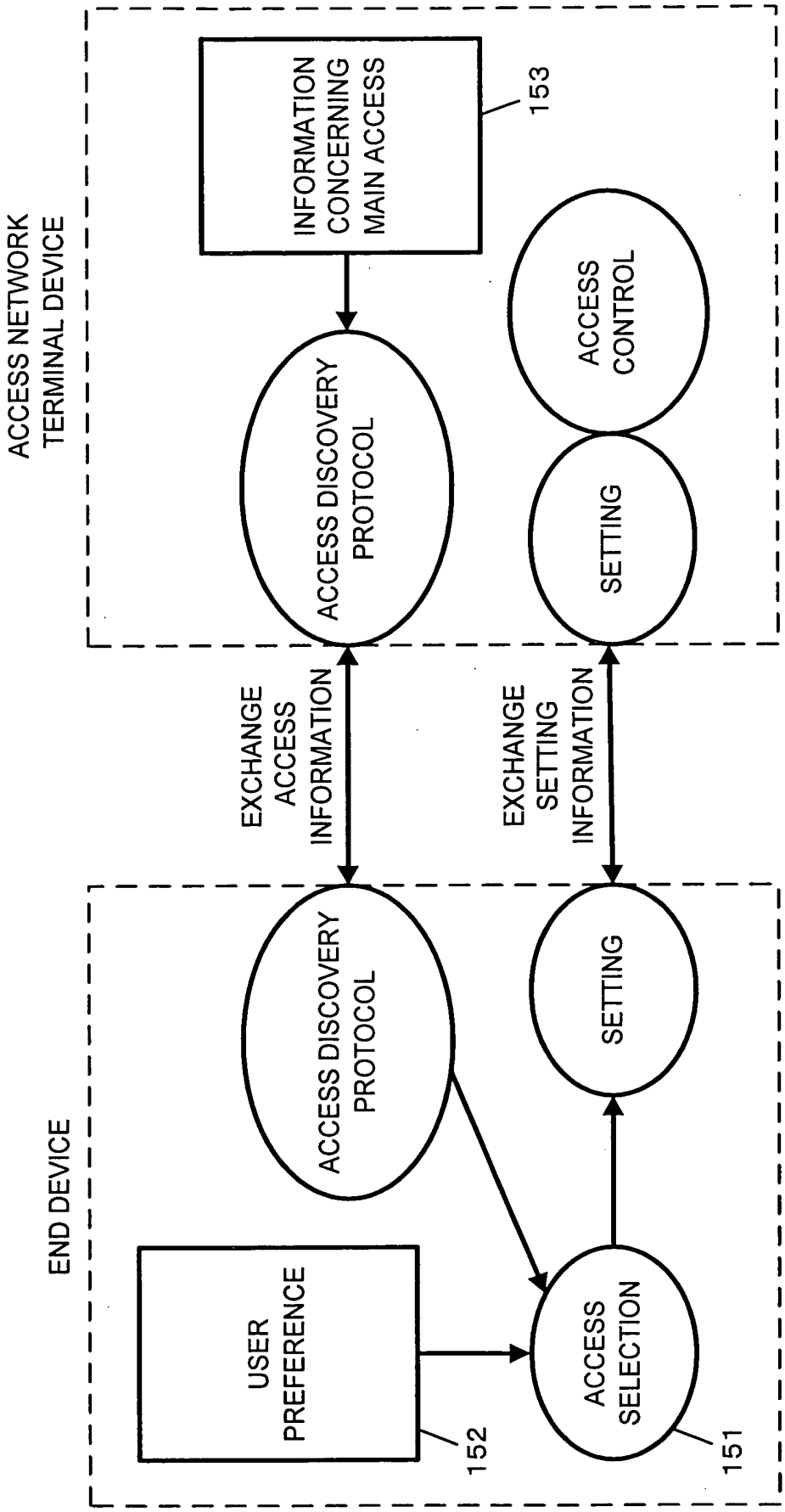

ACCESS NETWORK TERMINAL DEVICE
INFORMATION CONCERNING MAIN ACCESS
153
ACCESS DISCOVERY PROTOCOL
ACCESS CONTROL
SETTING
EXCHANGE ACCESS INFORMATION
EXCHANGE SETTING INFORMATION
END DEVICE
ACCESS DISCOVERY PROTOCOL
SETTING
USER PREFERENCE
ACCESS SELECTION
152
151

Fig. 28

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LIST OF REFERENCE NUMERALS IN DRAWINGS

1: LOCAL AREA NETWORK

2: EXTERNAL NETWORK

11, 12, 13: ROUTERS

14, 15: TERMINALS

16, 17: EXTERNAL TERMINALS

21, 22: NON-CORRESPONDING ROUTERS

151: ACCESS SELECTION

152: USER PREFERENCE

153: INFORMATION RELATED TO MAIN ACCESS

161 TO 163: ROUTERS

164: MOVIE TERMINAL

165: IP TELEPHONE TERMINAL

166: LAPTOP PC

201: RA GENERATING UNIT

202: ORDER UPDATING UNIT

203: ROUTER DETERMINING UNIT

204: ORDER TABLE STORING UNIT

205: RELAY DETERMINING UNIT

206: PACKET RELAYING UNIT

207: ORDER DETERMINING UNIT

208: LAN INTERFACE

209: ACCESS INTERFACE

210: NON-CORRESPONDING ROUTER STORING UNIT

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211: HEADER INFORMATION STORING UNIT

212: RELAY REPORT TRANSFERRING UNIT

213: RELAY REPORT GENERATING UNIT